

The albumen gland is large and finely granulose. Its separation from the vagina-oviduct is not well marked. The hermaphroditic duct empties at the junction of the two. This duct is greatly convoluted and swollen in its lower portion. Upwards, it is thin and slender. The hermaphroditic gland is composed of two portions, grape-like granules embedded in the coarsely granular liver. The spermatheca is pear-shaped and empties into the vagina a considerable distance below the termination of the vas deferens.

The digestive tract is composed of the usual elements; buccal mass, salivary glands, oesophagus, stomach and intestine. Two features seem to be noteworthy. The oesophagus is not a slender duct as usual, but the walls are "knotty" or slightly convoluted throughout. Also on the stomach there appears to be an accessory gland, closely appressed to the walls of that organ. The salivary glands are united into one but they seem to discharge into the buccal mass at the usual two points.

The jaw and radula were not examined but the description of these organs has been repeated so many times that it does not need to be quoted. Binney in the Manual of American Land Shells, p. 263, 1885, considers them in detail.

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#### SOME PERUVIAN CLAUSILIIDÆ.

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The species of *Nenia* noticed below were collected in the valley of the Huallaga River, eastern Peru, by Dr. Bela Hubbard, in the course of geological exploration in that region. I owe the privilege of studying them to Dr. Bryant Walker.

*NENIA BELAHUBBARDI* n. sp. Pl. 2, figs. 1, 2, 15-17.

The shell is fusiform, rather slender, widest at the penult whorl, attenuate above; quite thin; light brown variegated with white, which appears on the striae only, in many small, irregular patches. Sculpture of fine, close, oblique striae, 12 or 13 in 1 mm. on the face of the last whorl. They are continuous, very slightly irregular or waved, but appearing more so from

the white variegation; below the suture there are spaced groups of slightly enlarged white striæ, giving the appearance of very low, protractive folds there. The first  $1\frac{1}{2}$  whorls are smooth and glossy, apex flattened; following whorls are slightly convex; last whorl flattened, projecting in a short, rounded neck. The aperture is squarish-ovate, vertical, light brown within. Peristome pale brown, rather broadly expanded. The superior lamella is vertical, strong but thin, concave on the left side, curving to the left where it joins the spiral lamella, which penetrates scarcely deeper than the dorsal side. The inferior lamella is moderately developed, becoming strong within, and penetrating to a mid-ventral position. The principal plica is about half a whorl long, running from the middle of the right side to a little past the beginning of the neck. The lunella is dorso-lateral, well developed and strongly arched.

Length 27.8, diam. at penult whorl 4.7 mm.; longest axis of aperture 5.4 mm.; 12 whorls.

Length 26.3, diam. 4.6, aperture 5 mm.; 12 whorls.

The clausilium is bluntly pointed at the palato-distal extremity, slightly excised at the filament.

Caspisapo, Rio Huallaga, Peru. Cotypes in A. N. S. P. and Bryant Walker coll.

*Nenia pampasensis* (Pils.) has about the figure of this species but differs in sculpture among other features.

*NENIA FLACHI TINGAMARLE* n. subsp. Pl. 2, fig. 3.

This form agrees in the main with *N. flachi* Boettger, but differs by the more widely spaced striæ. In *N. flachi* the striæ are crowded, 16 to 18 in one millimeter on the face of the last whorl. In this race there are 8 to 9 in one millimeter. Coarse, low, spiral striæ are present and well developed. The color is a very pale brown, somewhat translucent, the shell being quite thin.

Length 23.2, diam. at penult whorl 5.2, largest axis of aperture 6.6 mm.;  $6\frac{1}{2}$  whorls remain.

Length 23.5, diam. 5.2, aperture 6.8 mm.;  $6\frac{1}{2}$  whorls.

Tinga Maria, Peru. Cotypes in A. N. S. and Bryant Walker collections.

The group comprising *N. peruana* (Trosch.), *N. slosarskii* (Lub.) and *N. flachi* Bttg. is a rather intricate one, the species being closely related and likely to give trouble as more races turn up; but the striation of the new one, very much more spaced than in the specimens of these three species compared, appears to make another race necessary.

Two forms I have not seen, *Clausilia granulosa* Sykes and *C. s. rosenbergi* Prest. are placed in the synonymy of *N. flachi* by Boettger, in his latest consideration of the subject (Nachr.-bl. D. M. Ges., 1910, 77). These two and *N. flachi* are from Chanchamayo, Peru.

*Nenia bryantwalkeri* n. sp. Pl. 2, figs. 4, 5, 12-14.

The shell is fusiform with entire summit. Color undetermined, as the type is bleached. Sculpture of slender, widely separated riblets, 5 riblets and intervals in 1 mm. on the face of the last whorl. On the neck they became closer. The whorls are quite strongly convex, the last becoming free and descending more rapidly, the neck rounded. The aperture is carried a little forward, vertical, ovate, with strongly expanded peristome. The superior lamella is strong, vertical, concave on the left side, continuous with the spiral lamella, there being no bend or sinuosity marking their junction. The inferior lamella is inconspicuous in a front view but rapidly becomes high within, penetrating to the mid-ventral line. The principal plica is half a whorl long, dorsal in position. The lunella is strong, subdorsal in position, strongly arched.

Length 15, diam. at penult whorl 3.4 mm.;  $7\frac{1}{2}$  whorls.

The clausilium is thickened along the oblique distal end, and pointed at the palato-distal extremity. There is a quite small excision at the filament.

Province of Huallaga, Peru. Type in the Bryant Walker collection.

This species is probably nearest to *Nenia filocostulata* (Lub.), a decollate species retaining 8 whorls, with a length of 17 mm., according to Lubomirski, or having 7 whorls, length 15, diam. 3 mm. in a specimen measured. Besides the constant decollation, it differs from our new form by the unevenly spaced costulæ, less swollen shape and longer neck.